



Material Safety Data Sheet

MSDS ID NO.: 0138MAR019
Revision date: 09/12/2005

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon Cationic Emulsified Asphalt
Synonyms: AE-TC; CMS-2 (E-5); CMS-2R; CMS-2S; CRS-1P; CRS-2; CRS-2 (E-3); CRS-2 PM (E-3M); CRS-2L; CRS-2P; CRSP; CSS-H (E-8C); CSS-1; CSS-1H; E-12; Performac™ AE Series; Performac™ CMS Series; Performac™ CRS Series; Performac™ CSS Series
Chemical Family: Asphalt
Formula: Mixture

Manufacturer:
Marathon Petroleum Company LLC
539 South Main Street
Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is an Cationic Emulsified Asphalt mixed with varying proportions of Stoddard Solvent with a cationic emulsifier. May contain polymer modifiers. Composition varies depending on source of crude and specifications of final product. May contain minor amounts of sulfur, nitrogen and oxygen containing compounds.

Product information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Cationic Emulsified Asphalt	Mixture	100	=0.5 mg/m ³ TWA		

Component Information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Water	7732-18-5	25-75			
Stoddard Solvent	8052-41-3	0-10	= 100 ppm TWA	= 100 ppm TWA = 525 mg/m ³ TWA	
Polymer Modifier (SBS or SBR)	Mixture	0-5			
Cationic Emulsifier	Mixture	0.1-3.0			
Sulfur Compounds	Mixture	0-3			
Asphalt	8052-42-4	30-75	=0.5 mg/m ³ TWA (inhalable fraction, as benzene-soluble aerosol)		
Hydrogen Sulfide	7783-06-4	0-0.5	= 10 ppm TWA = 15 ppm STEL	= 10 ppm TWA = 14 mg/m ³ TWA = 15 ppm STEL = 21 mg/m ³ STEL	

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

EMULSIFIED ASPHALT IS A DARK BROWN TO BLACK LIQUID EMULSION. ASPHALT IS LIQUID AT 150-200 DEGREES F AND SKIN CONTACT WILL CAUSE THERMAL BURNS. WHEN HEATED THIS MATERIAL MAY VENT TOXIC LEVELS OF HYDROGEN SULFIDE (H₂S) VAPORS THAT ACCUMULATE IN THE VAPOR SPACES OF STORAGE AND TRANSPORT COMPARTMENTS. H₂S VAPORS CAN CAUSE EYE, SKIN, AND RESPIRATORY TRACT IRRITATION AND ASPHYXIATION. AVOID SKIN CONTACT. LONG TERM SKIN EXPOSURE TO COMPONENTS OF THIS PRODUCT HAS CAUSED CANCER IN LABORATORY ANIMALS. THIS PRODUCT IS NEITHER A FLAMMABLE NOR COMBUSTIBLE MATERIAL PER THE OSHA HAZARD COMMUNICATION STANDARD BUT WILL BURN WHEN HEATED TO EXTREMELY HIGH TEMPERATURES.

OSHA WARNING LABEL:

**WARNING.
HOT ASPHALT
MAY PRODUCE SEVERE BURNS.
MAY VENT HARMFUL CONCENTRATIONS OF HYDROGEN SULFIDE (H₂S) GAS WHICH CAN CAUSE
RESPIRATORY IRRITATION AND ASPHYXIATION.
LONG-TERM SKIN EXPOSURE TO COMPONENTS OF THIS PRODUCT HAS CAUSED CANCER IN LABORATORY
ANIMALS.**

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

Inhalation: Vapors and fumes can cause respiratory and nasal irritation. Significant concentrations of hydrogen sulfide gas can be present in the vapor space of storage tanks and bulk transport compartments (See Sections 7, 8 & 11).

Ingestion: Product would be expected to have a low order of acute toxicity.

Skin contact: Hot product causes severe burns. Frequent or prolonged contact with cold material may cause irritation.

Eye contact: Hot product causes severe burns.

Carcinogenic Evaluation:

Product information

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Cationic Emulsified Asphalt Mixture	NE			

Notes: The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence for the carcinogenicity of extracts of steam-refined bitumens (asphalts), air-refined bitumens and pooled mixtures of steam- and air-refined bitumens in experimental animals. IARC has determined that there is inadequate evidence that bitumens alone are carcinogenic to humans.

Component Information

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Asphalt 8052-42-4	Supplement 7, 1987; Monograph 35, 1985; (extracts of steam and air refined bitumens)		A4 - Not Classifiable as a Human Carcinogen (as benzene-soluble aerosol)	

Notes: The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of aliphatic hydrocarbon solvents in humans. Therefore, aliphatic hydrocarbon solvents are not classifiable as to their carcinogenicity to humans (Group 3)

4. FIRST AID MEASURES

Inhalation: If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

Skin contact: For contact with hot molten material, immerse or flush skin with cold water for at least 15 minutes. Call a physician. Do not attempt to remove solidified material since removal may cause further tissue injury. Cold material over a burn should not be removed except by a physician. Remove cold material (not associated with a burn) with waterless handcleaner and then wash with soap and water. If symptoms or irritation occur, call a physician.

Ingestion: Ingestion not likely. If large amounts are swallowed, immediately call a physician.

Eye contact: For contact with hot molten material, flush with large amounts of tepid water for at least 15 minutes. Immediately call a physician.

For contact with vapors or dust, flush with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Notes to physician: Recommended practice is to not attempt to remove hot material associated with a burn. Allow the solidified material to remain in place until cooled so it can naturally fall off. Natural separation will occur in 48-72 hours. If removal is attempted, mineral oil may be used to remove asphalt once it is cooled. For best results, work it into the skin around the material and allow the material to "float" off.

Medical conditions aggravated by exposure: Preexisting skin, eye and respiratory disorders may be aggravated by exposure to components of this product.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFT/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards: This product is neither a flammable nor combustible material, but will burn when heated to extremely high temperatures. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Special protective equipment for firefighters: Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep run-off water out of sewers and water sources.

Flash point: >200 F

Autoignition temperature: No data available.

Flammable limits in air - lower (%): 1.0

Flammable limits in air - upper (%):

6.0

NFPA rating:

Health: 1
Flammability: 1
Reactivity: 1
Other: -

HMS classification:

Health: 1
Flammability: 1
Reactivity: 1
Special: *See Section 8 for guidance in selection of personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return product to source.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Significant concentrations of hydrogen sulfide (H₂S) gas can be generated and accumulate in storage tanks and bulk transport compartments which may require additional precautions and procedures during loading/unloading. When opening covers and outlet caps on storage tanks, use face shield and gloves to avoid possible injury from pressurized product. Stay upwind and vent open hatches before unloading. Keep heating coils and flues in storage tanks, trucks and kettles covered with product (8"). Do not overheat.

Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:

Local or general exhaust required in an enclosed area or when there is inadequate ventilation.

Respiratory protection:

Not required under normal conditions and adequate ventilation. When H₂S vapors exceed permissible limits, i.e., in confined spaces or bulk transport loading/unloading, a positive-pressure atmosphere supplying respirator is recommended. Self-contained breathing apparatus should be used for fire fighting.

Skin and body protection:

Insulated gloves when handling hot material.

Eye protection:

Goggles and faceshield when handling hot material.

Hygiene measures:

Rubberized suits or coats may be needed for some maintenance operations with hot material.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:

Black-brown Liquid Emulsion

Physical state (Solid/Liquid/Gas):

Liquid

Substance type (Pure/Mixture):

Mixture

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Product name: Marathon Cationic Emulsified Asphalt

Color:	Black-Brown
Odor:	Tar
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range (5-95%):	>212 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.9-1.05
Density:	7.5-8.7 lbs/gal
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	Negligible @ 77 F
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Combustion produces toxic oxides of sulfur, carbon monoxide, sulfur dioxide, hydrogen sulfide and hydrocarbons.
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Excessive heat, sources of ignition, open flame.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon Cationic Emulsified Asphalt	Mixture	No data available	No data available	No data available

Some epidemiologic studies conducted on workers exposed to asphalt fume have shown no increased incidence of cancer while other studies have reported a slightly increased incidence of lung, other respiratory tract or gastrointestinal cancers. In those studies in which elevated cancer incidences were reported, concurrent or previous exposure to coal-tar products have been documented. therefore, it cannot be concluded that cancer incidence is related to exposure to asphalt fume.

Although early studies have some technical shortcomings, long term inhalation exposures to asphalt aerosols or fumes did not produce evidence of carcinogenicity even though chronic inflammatory changes similar to those produced by nonspecific respiratory irritants were observed. Inhalation of 150 mg/m³ asphalt fume (particulate + vapor) 6 hours/day, 5 days/week for 13 weeks, did not produce toxicity except for reduced body weight and irritation in nasal passages in exposed rats.

Laboratory animals administered subcutaneous or intramuscular injections of asphalt preparations or repeated skin applications of hot (212 F) undiluted asphalt have occasionally produced a low incidence of skin tumors at the site of application. These findings are of questionable validity since repeated tissue trauma (and/or burns) at the application site can induce tumors. Solvent dilutions of different types of asphalts have been tested in chronic skin painting studies. Some of the studies have reported a low incidence of skin tumors. The use of diluents may enhance bioavailability or metabolic activation of chemicals in the mixture in a fashion not representative of occupational exposure. Skin painting studies in mice have been conducted using condensates from fumes generated at temperatures >450 F diluted in solvent. Asphalt fume condensate preparations have produced skin tumors. Experimental conditions (temperature and dose) were grossly exaggerated over that likely to occur in humans.

Extracts of whole asphalts tested in a modified Ames assay gave negative or slightly positive findings (mutagenicity index <1.5). Fume condensates derived from heating asphalts to high temperatures (>450 F) were moderately active (MI 4-9). Fumes generated from coal tar pitch were >1000 times more active. Asphalt fume samples collected under actual field conditions did not show any significant mutagenic activity.

Summary of health effect data on asphalt components:

This product can contain a toxicologically significant concentration of hydrogen sulfide (H₂S). Hydrogen sulfide gas (H₂S) is toxic by inhalation. Prolonged breathing of 50-100 ppm H₂S vapors can produce eye and respiratory tract irritation. Higher concentrations (250-600 ppm) for 15-30 minutes can produce headache, dizziness, nervousness, nausea and pulmonary edema or bronchial pneumonia. Concentrations of >1000 ppm will cause immediate unconsciousness and death through respiratory paralysis. Rats and mice exposed to 80 ppm H₂S, 6 hrs/day, 5 days/week for 10 weeks, did not produce any toxicity except for irritation of nasal passages. H₂S did not affect reproduction and development (birth defects or neurotoxicity) in rats exposed to concentrations of 75-80 ppm or 150 ppm H₂S, respectively. Over the years a number of acute cases of H₂S poisonings have been reported. Complete and rapid recovery is the general rule. However, if the exposure was sufficiently intense and sustained causing cerebral hypoxia (lack of oxygen to the brain), neurologic effects such as amnesia, intention tremors or brain damage are possible.

This product may contain Stoddard Solvent (Aliphatic Naphtha) at a level of >1.0%. Ninety day and two year inhalation studies of mineral spirits (stoddard solvent) were conducted in mice and rats at concentrations of 138, 275, 550, 1,100 and 2,200 mg/m³. In the 90 day studies, no significant toxicity was observed in rats except for nasal irritation at the highest dose and the previously noted effects in the male rat kidney. No significant toxicity was observed in mice except for slight effects in the spleen of female mice. No evidence of carcinogenic activity was observed in male mice or female rats chronically exposed to stoddard solvent. There was equivocal evidence that stoddard solvent produced benign liver tumors in female mice (an effect associated with increased body weight) and some evidence that stoddard solvent produced adrenal tumors in male rats. This latter effect is believed to be a secondary response to the kidney disease mediated by alpha-2μ-microglobulin.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:

If spilled, hot product and/or the coating action of the oil components could harm plant life. This product does not concentrate or accumulate in the food chain. This product is not expected to cause any acute or chronic toxicity to aquatic organisms due to its extremely low water solubility.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This material as supplied and by itself, when discarded or disposed of, is not an EPA RCRA hazardous waste according to federal regulations. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce is NOT REGULATED by DOT regulations.

DOT reportable quantity (lbs): Not applicable.

TDG (Canada):

Regulated substances: Not applicable.

15. REGULATORY INFORMATION

Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Water	NA
Stoddard Solvent	NA
Polymer Modifier (SBS or SBR)	NA
Cationic Emulsifier	NA
Sulfur Compounds	NA
Asphalt	NA
Hydrogen Sulfide	hydrogen sulfide

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Water	NA
Stoddard Solvent	NA
Polymer Modifier (SBS or SBR)	NA
Cationic Emulsifier	NA
Sulfur Compounds	NA
Asphalt	NA
Hydrogen Sulfide	= 100 lb final RQ = 45.4 kg final RQ

SARA Section 311/312: The following EPA hazard categories apply to this product:

Acute Health Hazard

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Water	None
Stoddard Solvent	None
Polymer Modifier (SBS or SBR)	None
Cationic Emulsifier	None
Sulfur Compounds	None
Asphalt	None
Hydrogen Sulfide	None

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Water

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Stoddard Solvent

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1736
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed

Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Polymer Modifier (SBS or SBR)	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Cationic Emulsifier	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Sulfur Compounds	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed

Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Asphalt

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 0170
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Hydrogen Sulfide

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1017
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Extraordinarily hazardous
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1017
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 100 lbs Air RQ = 100 lbs Land/Water RQ

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDSL).

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Water	Uncontrolled product according to WHMIS classification criteria.	
Stoddard Solvent	B3; D2B	1% (English Item 1468, French Item 1498)
Hydrogen Sulfide	A; B1; D1A; D2B	1% (English Item 851, French Item 1550)

16. OTHER INFORMATION

Additional Information:

The pronounced and easily-recognized rotten egg odor of hydrogen sulfide gas (H₂S) can be detected at concentrations as low as 0.003-0.13 ppm. Since higher H₂S concentrations (100-200 ppm) cause olfactory fatigue and other hydrocarbon odors can "mask" H₂S, the sense of smell cannot be used as a reliable indicator of H₂S exposure.

Prepared by:

Craig M. Parker Manager, Toxicology and Product Safety

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